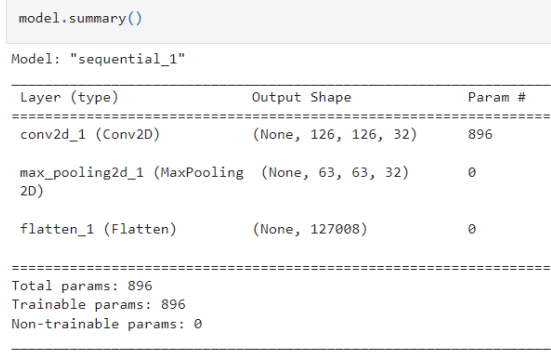
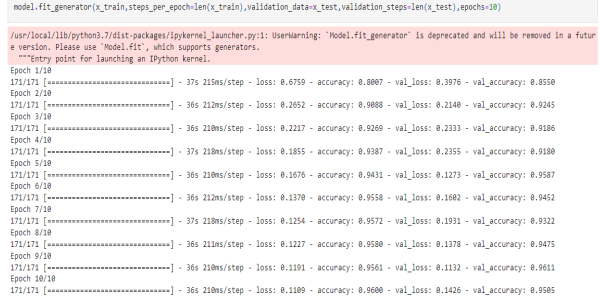


## Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID52484
Project Name	Fertilizers Recommendation System For Disease Prediction
Maximum Marks	10 Marks

### Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Model Summary	Total params :896  Trainable params:896  Non-trainable params:0	 <pre> model.summary()  Model: "sequential_1" Layer (type)                Output Shape              Param # ----- conv2d_1 (Conv2D)           (None, 126, 126, 32)     896 max_pooling2d_1 (MaxPooling (None, 63, 63, 32)      0 2D) flatten_1 (Flatten)         (None, 127008)           0 ----- Total params: 896 Trainable params: 896 Non-trainable params: 0           </pre>
2.	Accuracy	Training Accuracy -  Validation Accuracy -	 <pre> model.fit_generator(x_train, steps_per_epoch=len(x_train), validation_data=x_test, validation_steps=len(x_test), epochs=10)  /usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:1: UserWarning: "Model.Fit_generator" is deprecated and will be removed in a future version. Please use "Model.fit", which supports generators. """Entry point for launching an IPython kernel.  Epoch 1/10 171/171 [#####] - 37s 215ms/step - loss: 0.6759 - accuracy: 0.8887 - val_loss: 0.3976 - val_accuracy: 0.8558 Epoch 2/10 171/171 [#####] - 36s 212ms/step - loss: 0.2652 - accuracy: 0.9888 - val_loss: 0.2148 - val_accuracy: 0.9245 Epoch 3/10 171/171 [#####] - 36s 218ms/step - loss: 0.2217 - accuracy: 0.9269 - val_loss: 0.2333 - val_accuracy: 0.9186 Epoch 4/10 171/171 [#####] - 37s 218ms/step - loss: 0.1855 - accuracy: 0.9387 - val_loss: 0.2355 - val_accuracy: 0.9188 Epoch 5/10 171/171 [#####] - 36s 218ms/step - loss: 0.1679 - accuracy: 0.9431 - val_loss: 0.1273 - val_accuracy: 0.9587 Epoch 6/10 171/171 [#####] - 36s 212ms/step - loss: 0.1378 - accuracy: 0.9558 - val_loss: 0.1862 - val_accuracy: 0.9452 Epoch 7/10 171/171 [#####] - 37s 218ms/step - loss: 0.1254 - accuracy: 0.9572 - val_loss: 0.1931 - val_accuracy: 0.9322 Epoch 8/10 171/171 [#####] - 36s 211ms/step - loss: 0.1227 - accuracy: 0.9588 - val_loss: 0.1378 - val_accuracy: 0.9475 Epoch 9/10 171/171 [#####] - 36s 218ms/step - loss: 0.1191 - accuracy: 0.9561 - val_loss: 0.1132 - val_accuracy: 0.9611 Epoch 10/10 171/171 [#####] - 36s 218ms/step - loss: 0.1189 - accuracy: 0.9608 - val_loss: 0.1426 - val_accuracy: 0.9585           </pre>

```
model.summary()
```

Model: "sequential\_1"

Layer (type)	Output Shape	Param #
conv2d_1 (Conv2D)	(None, 126, 126, 32)	896
max_pooling2d_1 (MaxPooling 2D)	(None, 63, 63, 32)	0
flatten_1 (Flatten)	(None, 127008)	0

=====  
Total params: 896  
Trainable params: 896  
Non-trainable params: 0  
=====

```
model.fit_generator(x_train,steps_per_epoch=len(x_train),validation_data=x_test,validation_steps=len(x_test),epochs=10)
```

/usr/local/lib/python3.7/dist-packages/ipykernel\_launcher.py:1: UserWarning: `Model.fit\_generator` is deprecated and will be removed in a future version. Please use `Model.fit`, which supports generators.

"""Entry point for launching an IPython kernel.

Epoch 1/10

171/171 [=====] - 37s 215ms/step - loss: 0.6759 - accuracy: 0.8007 - val\_loss: 0.3976 - val\_accuracy: 0.8550

Epoch 2/10

171/171 [=====] - 36s 212ms/step - loss: 0.2652 - accuracy: 0.9088 - val\_loss: 0.2140 - val\_accuracy: 0.9245

Epoch 3/10

171/171 [=====] - 36s 210ms/step - loss: 0.2217 - accuracy: 0.9269 - val\_loss: 0.2333 - val\_accuracy: 0.9186

Epoch 4/10

171/171 [=====] - 37s 218ms/step - loss: 0.1855 - accuracy: 0.9387 - val\_loss: 0.2355 - val\_accuracy: 0.9180

Epoch 5/10

171/171 [=====] - 36s 210ms/step - loss: 0.1676 - accuracy: 0.9431 - val\_loss: 0.1273 - val\_accuracy: 0.9587

Epoch 6/10

171/171 [=====] - 36s 212ms/step - loss: 0.1370 - accuracy: 0.9558 - val\_loss: 0.1602 - val\_accuracy: 0.9452

Epoch 7/10

171/171 [=====] - 37s 218ms/step - loss: 0.1254 - accuracy: 0.9572 - val\_loss: 0.1931 - val\_accuracy: 0.9322

Epoch 8/10

171/171 [=====] - 36s 211ms/step - loss: 0.1227 - accuracy: 0.9580 - val\_loss: 0.1378 - val\_accuracy: 0.9475

Epoch 9/10

171/171 [=====] - 36s 210ms/step - loss: 0.1191 - accuracy: 0.9561 - val\_loss: 0.1132 - val\_accuracy: 0.9611

Epoch 10/10

171/171 [=====] - 36s 210ms/step - loss: 0.1109 - accuracy: 0.9600 - val\_loss: 0.1426 - val\_accuracy: 0.9505